Mrs Hoopes

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W. ROBERT MOORE

NEAR ZANZIBAR HARBOR WORKMEN TWIST COIR ROPE INTO HAWSERS FOR ARAB DHOWS

The rough fiber for the rope comes from coconut husks which have disintegrated for three months in wet sand. Then the strands are washed, dried, and wound by hand into small ropes by women. Here, men twist several small lines together on a crude windlass to make ropes strong enough for use on the dhows which ply the Indian Ocean between the Arabian peninsula and Zanzibar (Bulletin No. 5).

Bulletin No. 1, March 10, 1952

9-Man Council Replaces Uruguay's President

TOUGH old gauchos, dark-eyed Latin beauties, and voluble politicos recently went to the polls in democratic Uruguay and decided to do away with their president's job.

The unusual change in Uruguay's constitution went into effect the first of this month. It abolished the presidential system of government in favor of a nine-man *colegiado*, or executive board, patterned after the Swiss federal-council system. Thus the "Switzerland of South America" takes on another Swiss characteristic.

Voting in a free referendum on such a sweeping political question seems natural today to proud citizens of this compact South American republic. Their nation is known around the world for stable and enlightened self-government and social advances. Among the strongest proponents of the plan to abolish the presidency was Uruguay's last president—Andres Martinez Trueba.

On "Silver" River

Uruguay has not always been so peaceful. A rich land of grassy *pampas* tucked like a pear-shaped wedge between Brazil and Argentina where South America's Atlantic seacoast curves inward to the Río de la Plata, it has known more than its share of war and revolutionary bloodshed in struggles for the right to rule an area smaller than South Dakota.

A Spanish explorer named Juan Diaz de Solís, searching for a southern passage between Atlantic and Pacific in 1516, was the first European to set foot on the banks of the Río de la Plata. The "River of Silver" is actually a baylike mixing basin of the Uruguay and Paraná rivers; its name is indicative of the Spaniards' subsequent quest for mineral treasure, which they never found in Uruguay.

Tradition tells that a Portuguese lookout for Magellan in 1520 cried "Monte vid' eu!"—"I see a hill!"—on spotting Uruguay's isolated El Cerro cone, and thus gave a name to the fortress city, Montevideo, built there by the Spaniards more than two centuries later.

Most Densely Settled South American Republic

During the Napoleonic wars, British forces struck at Bonaparte's unwilling ally Spain by attacking Montevideo and Buenos Aires on the opposite banks of the Plate. They were eventually driven out by resurgent settlers. In the second and third decades of the 1800's, Uruguay won its independence under its most famous leader, José Gervasio Artigas. But other wars were to plague the country until the turn of the 20th century, when Uruguay entered upon a still-continuing era of peace and progress.

Smallest and most densely populated South American republic (United Nations-estimated population in 1949 was 2,353,000), Uruguay has no native pure-blooded Indians. The fierce Charrúas were wiped out in colonial days, and other tribes were assimilated by the Europeans. Spanish and Italian heritage predominates today.

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EDWIN L. WISHERD

(SEE BULLETIN NO. 2)

BARBADOS, BRITAIN'S WEST INDIES OUTPOST, TAKES PRIDE IN ITS NICKNAME, "LITTLE ENGLAND"

Like London, Bridgetown has a Trafalgar Square and a war memorial. Leading to the square is a bridge across the careenage (a shallow inner harbor where ships may be overturned for hull repairs). To the left stands the building where the island assembly meets. First convened in 1639, it is the oldest legislative body in the British Commonwealth after those in London and Bermuda. Just beyond the bridge rises the tower of St. Michael's Cathedral, strikingly English in its Victorian mixture of Norman and Gothic architecture. Against buildings of coral rock, now aged to silvery gray, flame tropical poinciana trees.

Bulletin No. 2, March 10, 1952

Fishing Crowds Sugar as Barbados Industry

THOUGH sugar is still the chief industry of Britain's most easterly West Indies island—Barbados—a rival occupation is forging ahead.

Fishing is engaging more and more of the islanders. During World War II a shortage of proteins stimulated fishermen to vigorous efforts. More than 2,000 island people now "follow the fish" in nearly a thousand sailboats. Fishing grounds lie as much as 25 miles off shore. Many hauls number from 8,000 to 10,000 fish.

Has Dense Population

Flying fish may "play" in these waters, but they fill a more serious role in helping to feed islanders and vacationers. Other varieties include king-fish, grouper, dolphin, snapper, and bream. The annual value of the catch is estimated at more than $1,000,000.

With some 210,000 people on 166 square miles, Barbados has a population more than four times as dense as that of New York State.

For three centuries the islanders have chiefly lived by producing sugar. Dutch sugar planters, driven out of Guiana on the South American mainland by the Portuguese, came over to the pleasant triangular island in 1644 and introduced their trade to the English settlers. Many of these Englishmen had been living on Barbados since 1627, raising tobacco and cotton—less profitable than sugar.

Animals turned the machinery in the first sugar mills. In 1655 windmills were introduced. As these depended on the wind, work was irregular. Days of no work would be followed by periods of slaving around the clock. Steam engines were used from 1841 to 1946, when more modern equipment supplanted them. Many of the picturesque old stone mills are now used for storage. Barbados has some 36 sugar mills.

A scientific experiment station established in 1932 has given to the West Indies sugar industry a type of cane, originated on Barbados, which produces a greatly increased yield.

Cottage Industries Entice Tourists

Barbados ships all its sugar to the British Isles. Some of the molasses, which is its by-product, goes to Canada and the United States.

Barbadians also manufacture soap, margarine, cigarettes, bay rum, and edible oil. "Cottage industries" include the making of brushes and nets, and the toys, tortoiseshell jewelry and trinkets, and articles fashioned from seashells which are so enticing to tourists.

Barbados lies 100 miles east of the nearest of the Windward Islands—St. Lucia and St. Vincent. It is 21 miles long and 14½ miles at its widest. The soil is thin, but fertilizers and crop rotation have maintained its fertility.

Viewed from Bridgetown, the capital (population about 14,000), on the southwest coast, the island appears fairly flat. Actually, the land rises in terraces northeastward to highlands which reach 1,100 feet in Mt. Hillaby near the center of the island. Beyond the ridge lies the "Scotland District," so called for its resemblance to that country.

UMI

In October, as spring moves south from the tropics, the gently rolling prairies are covered with wild flowers. Uruguay becomes "The Purple Land," as it was described 75 years ago by W. H. Hudson in his memorable novel of that name.

Montevideo, gay and cosmopolitan, holds more than a third of Uruguay's people. Its port processes the beef, wool, and other animal products which account for 85 per cent of the nation's exports.

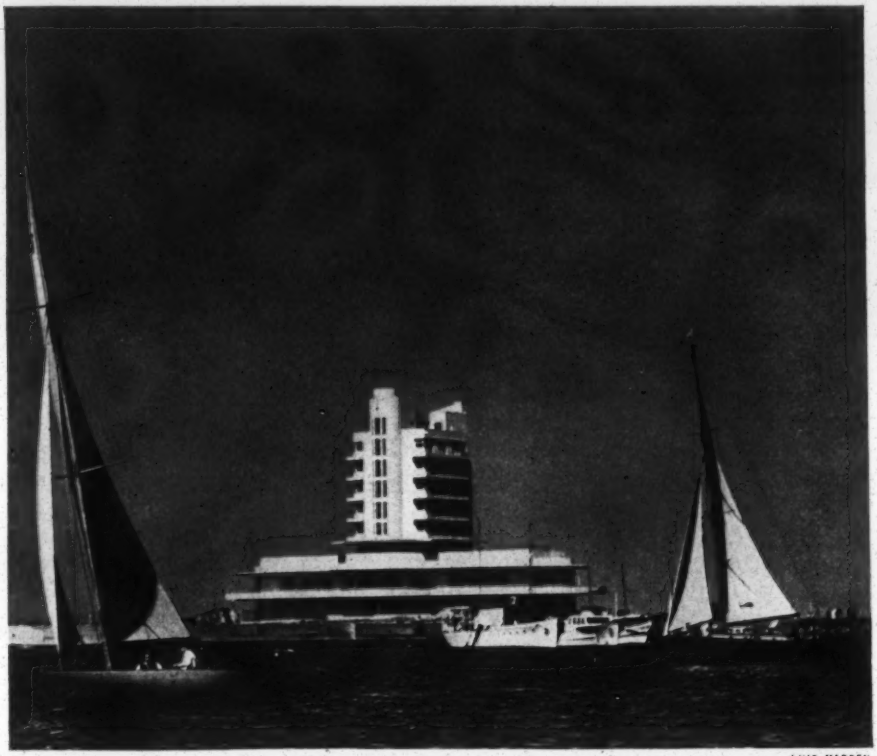
Uruguay imports raw materials, machinery, motor vehicles, textiles, foodstuffs, and fuel, chiefly from Great Britain and the United States.

A recent census showed that on Uruguay's *estancias*—ranches which cover the rangelands—there are more than three cattle and nine sheep for every Uruguayan.

NOTE: Uruguay is shown on the National Geographic Society's map of South America. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For additional information, see "The Purple Land of Uruguay" (with 20 color photographs), in the *National Geographic Magazine* for November, 1948. *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930-1945; and $2.00, 1912-1929. Earlier issues, when available, at varied prices).*

See also, in the GEOGRAPHIC SCHOOL BULLETINS, January 15, 1951, "Uruguay—Progressive South American Land."



LUIS MARDEN

URUGUAYANS ENJOY YACHTING FROM THIS LUXURIOUS CLUB AT BUCEO, A MONTEVIDEO SUBURB

Enthusiastic yachtsmen in Uruguay race their vessels up and down the coast and compete in international regattas. More than half of Uruguay's boundary consists of navigable coastline.

Bulletin No. 3, March 10, 1952

U.S. Fights to Save Its Three Largest Birds

IN wilderness sanctuaries from the Gulf coast of Texas to the Pacific, the United States is fighting to save its three largest birds from the dodo's fate.

Trumpeter swans, their haunting sky song echoing like French horns over Montana's Red Rock Lakes National Wildlife Refuge and neighboring Yellowstone National Park, are slowly winning their uphill race against extermination. Closer to oblivion are the nation's few remaining whooping cranes and the last 60-odd California condors still in existence (illustration, next page).

Swans Died for Fashion

These three are the B-36's of the bird world. The trumpeter swan is considered the heaviest, the whooping crane the tallest, and the California condor as having the widest wingspread of any North American wildfowl. They are also, with but two possible exceptions, the rarest birds on the continent.

Sixteen years ago only 73 trumpeters were known to nest in the United States. Fashion's demand for swan plumage, together with drainage and plowing of frontier nesting grounds, virtually wiped out the 30-pound birds in the late 1800's.

Last summer wildlife biologists and refuge managers counted 535 trumpeters in Montana and Wyoming. With two to three times that many believed to be in Canada and Alaska, more of the snow-white, black-billed trumpeters are living today than at any time in the last 50 years.

Late in October or early in November, bugling their hoarse "garoo" call, the last of the world's whooping cranes come wheeling down the sky to alight on a narrow strip of Texas saltmarsh near Corpus Christi—the 47,261-acre Aransas National Wildlife Refuge.

Whooping Cranes Down to 32

Flying the continent like long-range bombers from their unlocated breeding grounds far to the north, coming high and fast with white bodies offset by jet-black wing tips and crimson heads, the six-feet-long whoopers are second only to the ivory-billed woodpecker, and possibly the long-unreported Eskimo curlew, in scarcity of numbers.

Each year they return to Aransas. In 1951, they were harried by a severe winter drought in Texas. Only 32 were counted. The year before there had been 37 nesters.

California condors live to be 35 years old or more. Once they ranged the west coast from the Columbia River to Baja California. Now the last three-score members of this dying vulture family cling grimly to a rocky sanctuary in California's Los Padres National Forest, about 100 miles north of Los Angeles.

The condor's claws are so weak that it can scarcely walk on them. It requires a lurching run or a sharp cliff to make a good take-off. Once in the air, however, it can soar as high as 15,000 feet above the mountains. Its

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North of Bridgetown stands the only other settlement of any size—Speightstown, with 2,500 people. Eastward from Bridgetown along the south shore are a number of resort hotels and clubs. The island's moderate climate and white coral-sand beaches make it an attractive vacation spot almost any season of the year. The months from December to May—the "dry season" (although some rain falls all the year around)—are the pleasantest. Rainfall averages about 60 inches a year.

There are 583 miles of roads, most of them of crushed coral rock. Old-time repairs, which consisted in leveling holes, have lowered some of them so that they look like dry stream beds (illustration below).

Barbados had been deserted by its original inhabitants—the Arawak Indians—by 1536 when a Portuguese navigator, Pedro a Campos, landed and left hogs there to multiply for the benefit of future shipwrecked sailors. Dutch and Spanish ships visited the island, but the Portuguese hogs were the only settlers until the English came.

No other nation has governed the island, which, in spite of its tropical location, is reminiscent of England (illustration, inside cover).

Famous visitors to Barbados include George Washington, who spent several weeks there in 1751—his only trip to a foreign country—and Lord Nelson, who was there with the British fleet in 1805.

NOTE: Barbados is shown on the Society's map of the Countries of the Caribbean. See also, "Barbados, Outrider of the Antilles," in the *National Geographic Magazine* for March, 1952; "British West Indian Interlude," January, 1941.

CHARLES ALLMON

A SUNKEN CORAL ROAD PAST A BARBADOS CANE FIELD MAKES A HANDY LOADING PLACE FOR THIS TRUCK. THE CANE WILL BE TAKEN TO ONE OF THE ISLAND'S NUMEROUS SUGAR MILLS

Bulletin No. 4, March 10, 1952

Glassmakers' Craft Survives in Machine Age

CZECH glass blowers, expelled from their homeland after World War II, reportedly are earning good wages today in the United States Zone of Western Germany. Again they are blowing their beautiful and famous Bohemian glass, named after their native country. The western portion of Czechoslovakia is called Bohemia.

Today machines with iron lungs have taken over the mass production of most blown glassware and in one hour can turn out several thousand bottles and flasks. Electric-light bulbs now are made entirely by mechanical methods. Glass tubing for everything from tiny thermometers to neon lights is blown, stretched, cut, and checked for diameter by machine.

World War II Boosted American Glass Output

However, "hand-blown" glassware—that is, glass blown by human lungs—is still big business. It includes the finest table glassware, ranging from tiny fragile liqueur glasses to large goblets and handsome big pitchers. They are made in clear, colorless "crystal," and in all shades of the rainbow.

When glass production in Czechoslovakia, Germany, Belgium, Italy, and France closed down during World War II, American glass blowers took over as the makers of the world's finest hand-blown glass. But Old World skilled craftsmen may soon regain their share of the glass trade. Cheap labor, important in the making of hand-blown glass, is more abundant in European countries.

The American glass industry is firmly established, however. In recent years Americans have made machines to speed glass manufacture, and have developed new glass products. One American invented an automatic bottling machine to increase production. Others, working at the Corning Glass Works (Corning, New York), developed "Pyrex." Ordinary glass will shatter when it becomes hot, but Pyrex can be used in hot ovens without breaking. American glass manufacture centers in Corning and in Toledo, Ohio, and Charleston, West Virginia.

Glass blowers have plied their trade for 6,000 years at least, according to picture writing and objects found in ancient Egyptian tombs. Transparent glass was not known until the beginning of the Christian era. Early craftsmen called it "crystal" glass because they were trying to produce a glass as colorless and transparent as pure rock crystal.

One of New World's First Industries

Romans greatly advanced the art. They blew glass into molds, cut, decorated, and colored it. Venetians became the great glass artisans of the Middle Ages. William the Conqueror brought glass to England.

Colonists at Jamestown, Virginia, made crude glass beads soon after they landed in 1607 to use in trading with the Indians. By 1621 they had imported six Italian glassmakers to develop one of the New World's first industries. In the 18th century two German immigrants, Caspar Wistar, living in New Jersey, and Henry Stiegel, settled in Pennsylvania, made simple household glassware treasured by collectors today.

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nine- to 11-foot wingspan, second only to the wandering albatross of cold southern seas, gives it unbelievable grace.

Completely undeserved was the condor's early reputation as a dive-bombing bird of prey, swooping down and carrying off lambs, calves, fawns, or even human babies. Like other vultures, it subsists chiefly on carrion. Yet its great size, insatiable curiosity, and white markings on the underside of its wings made it an easy gun target for hunters, sheepherders, and range riders. In pioneer days, prospectors shot the condors for their wing feathers; the big hollow quills made good containers for gold dust.

NOTE: For further information about rare birds, see "Finding an 'Extinct' New Zealand Bird," in the *National Geographic Magazine* for March, 1952; "The Curlew's Secret," December, 1948; "Hunting with a Microphone the Voices of Vanishing Birds," June, 1937; and "The Eagle, King of Birds, and His Kin," July, 1933.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 15, 1948, "National Geographic Figures in Science News" (Bristle-thighed curlew).

LIKE THE ROC OF MYTHOLOGY, THE CALIFORNIA CONDOR IS LARGE BEYOND BELIEF, BEAUTIFUL IN FLIGHT, BUT UNGAINLY ON THE GROUND

On a wilderness mountain side, this feathered giant is braking for a landing—a difficult operation for a bird so big. He weighs about 25 pounds and has a wingspread of 10 feet. To take off, the condor requires a short run or a jump from a cliff.

Bulletin No. 5, March 10, 1952

Tang of the Clove Scents Zanzibar

ZANZIBAR, once dubbed "Stinkibar" by David Livingstone because of its unsavory odors, today scents the surrounding tropic air with the fragrant essence of cloves. Especially in the city's harbor are travelers reminded of Christmas dinners and childhood toothaches, for there the pungent odor of the well-known spice hangs heaviest.

On Zanzibar Island and neighboring Pemba Island, which together comprise the British Protectorate of Zanzibar, stand the gardenlike plantations which furnish the world four-fifths of its clove supply.

Dhows Come with the Monsoon

Alongside the clove orchards rise coconut trees, basis of the islands' copra and coir industries (illustration, cover). Another profitable occupation is seafaring. The port of Zanzibar, 25 miles off the coast of East Africa, is well placed for trading with Africa, India, and the Arabian peninsula.

Today, one of the world's most colorful trading fleets plies the Indian Ocean between Araby's ports and Zanzibar. Wooden, high-pooped, lateen-sailed dhows come to the island, like migratory birds, on the northeast monsoon. They bring cargoes of dates, incense, dried shark meat, carpets, and brassware. When the winds change, they return with mangrove poles, tea, coffee, sugar, and corn.

Zanzibar is more Arab than African. The Sultan of Oman, Seyyid Said, moved his capital there from Muscat in 1832, and his rule extended far into the African mainland. The Arabs used to say, "When you play the flute at Zanzibar, all Africa as far as the Lakes dances!" But by the end of the 19th century, European nations had gobbled up Zanzibar's mainland possessions.

As early as A.D. 60, Zanzibar was a trade center. It offered a safe harbor, a good water supply, and protection from hostile tribes of the mainland. Until a century ago, those tribes furnished an important article of trade—slaves. It was during the noisome slave-dealing era that the Scottish missionary, David Livingstone, visited Zanzibar and was shocked by its filth.

Stone Town and Ngambo

At that time (1866), a muddy creek back of the town was the city dump. Today the creek is canalized and the mud flats have been filled in and converted into recreation grounds and gardens.

The creek divides Zanzibar into two distinct districts—Stone Town, the Arab section, and Ngambo—the "Other Side"—where dwell 30,000 Africans. Each is a confusion of narrow, twisting streets.

In Stone Town the Arabs vie with each other in the beauty of their carved doors. No matter how humble a home may be, its door is the showpiece. A man's economic standing is indicated by the ornateness of the carving. In Ngambo most homes are built of mud and roofed with thatch.

Few streets in Stone Town are wide enough for automobiles. Even

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The Dutch set up a thriving glass industry at New Amsterdam in 1645. Evert Duycking and his son made America's first colored church glass.

The ingredients of fine glass are silica, derived from sand or rock crystal; alkali in the form of potash or soda; and lime or lead. These ingredients are fused in a furnace 2,700 to 3,300 degrees Fahrenheit.

Venetian glass blowers have added the word "fiasco" to the English language. In English it means failure. To the Venetians it means a flask, a common bottle which failed to make the grade as a beautiful vase. The master Venetian craftsman draws a blob of molten glass from the furnace and begins to shape it. Suddenly a flaw may appear—just enough of a flaw to rule out a perfect vase. The glass blower finishes the blob for use as an everyday straw-wrapped wine flask—a fiasco.

NOTE: For further information, see "Glass 'Goes to Town'," in the *National Geographic Magazine* for January, 1943.

EDWIN L. WISHERD

STRONG LUNGS EXPAND A ROSE-RED GLASS BUBBLE TO MANY TIMES ITS ORIGINAL SIZE

This workman skillfully blows and shapes a fiery ball of molten glass just taken from a white-hot furnace with his pipe. His craft is traced to ancient Egyptian artisans who fashioned delicate glass objects with the use of glass tubes. Later the Greeks made iron blowpipes similar to those of today.

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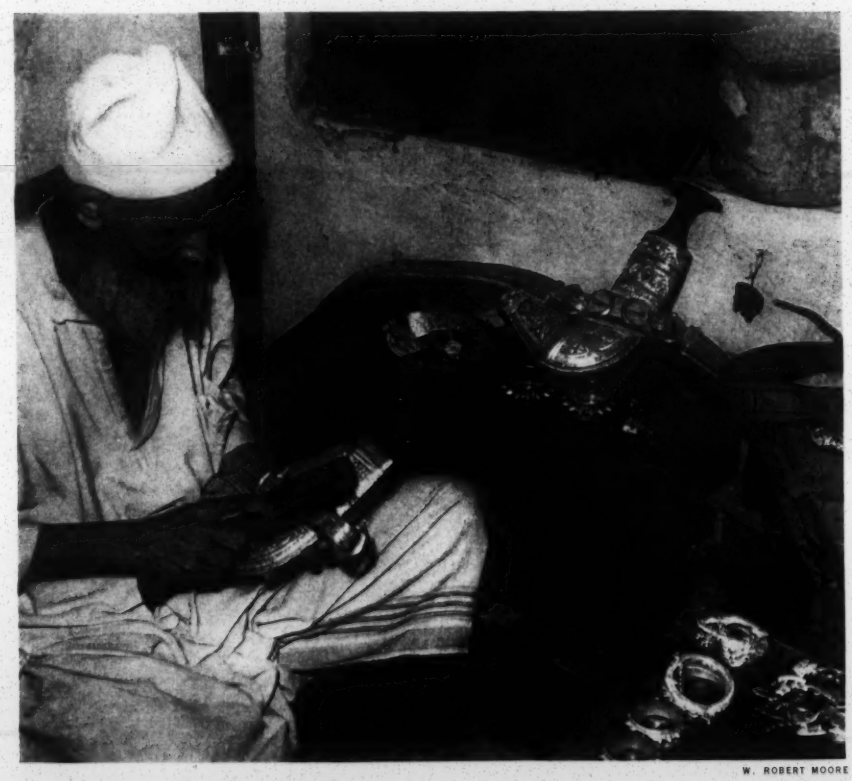
cart pushers send someone ahead to shout a warning so pedestrians can flatten themselves against walls. Hawkers roam the lanes, selling coffee and sweetmeats. Shoppers crowd in front of vegetable stalls.

Arab men in *kanzus*, white nightshirtlike garments, and turbans or white caps (illustration below) throng the alleys. Indian merchants wear long tunics or simple loincloths. Arab women in black, Swahili in boldly patterned *kangas*, and Indians in silken saris add female fashion and color to the streets.

From Zanzibar town asphalt roads lead to all parts of the 55-mile-long island, connecting clove and coconut plantations to the port.

NOTE: Zanzibar may be located on the Society's map of Africa.

See also, "Clove-scented Zanzibar," in the *National Geographic Magazine* for March, 1952; and "The Pathfinder of the East," November, 1927.



W. ROBERT MOORE

THE J-SHAPED DAGGER IN A SILVER SHEATH IS THE ZANZIBAR ARAB'S BADGE OF DISTINCTION

A silversmith polishes one of the ornate scabbards. They are worn on a belt at the front, not the side, of the owner. Bracelets and anklets (lower right) adorn Arab womenfolk. Other Arab marks of pride on Zanzibar are richly carved front doors and henna-dyed donkeys. More than half of the city's 45,000 inhabitants are African Moslems—not Semitic, as is this man.

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